PROPOSED AMENDMENTS TO
APPLIANCE EFFICIENCY REGULATIONS
(EXPRESS TERMS)

CALIFORNIA CODE OF REGULATIONS, TITLE 20:
SECTIONS 1601 THROUGH 1608

August 29, 2008

2008 Appliance Efficiency Rulemaking, Phase I, Part A

Docket Number 08-AAER-1A

45-DAY LANGUAGE

Publication Number CEC 400-2008-020-45 DAY

CALIFORNIA ENERGY COMMISSION

Text with underline indicates additional proposed new language.

CALIFORNIA CODE OF REGULATIONS, TITLE 20:

DIVISION 2, CHAPTER 4, ARTICLE 4, SECTIONS 1601-1608:

APPLIANCE EFFICIENCY REGULATIONS

Section 1601 Scope

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(k) Lamps, which are federally-regulated general service fluorescent lamps, federally-regulated incandescent reflector lamps, ~~and~~ state-regulated general service incandescent lamps, general service lamps, and GU-24 base.

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(n) Luminaires, which are torchieres, metal halide luminaires, portable luminaires, ~~and~~ under-cabinet luminaires, and GU-24 socket and base.

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NOTE: Authority cited: Sections 25213, 25218(e), 25402(a)-(c), and 25960, Public Resources Code.
Reference: Sections 25216.5(d), 25402(a)-(c), and 25960, Public Resources Code.

Section 1602. Definitions.

(a) General.

In this Article the following definitions apply. If a term is not defined here, the applicable definition in NAECA, EPAct, EISA, or the test methods listed in Section 1604 shall apply where it is reasonable to do so.

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"Color rendering index (CRI)" means the measured degree of color shift objects undergo when illuminated by a light source as compared with the color of those same objects when illuminated by a reference source of comparable color temperature, as determined using the applicable test method in Section 1604(k).

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"EISA" means the Energy Independence and Security Act of 2007.

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"Light emitting diode (LED)" means a p-n junction solid state device the radiated output of which is a function of the physical construction, material used, and exciting current of the device. The output of a light-emitting diode may be in:

(1) the infrared region;
(2) the visible region; or
(3) the ultraviolet region.

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"LPW" (lumens per watt) means "average lamp efficacy (LPW)" as defined in Section 1602(k).

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"Lumen" means a measure of the luminous flux or quantity of light emitted by a source.

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"OSA" means the Optical Society of America.

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(k) Lamps.

"Appliance Lamp" means any lamp specifically designed to operate in a household appliance~~. Examples of appliance lamps include oven lamps, refrigerator lamps, and vacuum cleaner lamps. Appliance lamps shall be designated and marketed for the intended application.~~

~~The designation shall be on the lamp packaging, and marketing materials shall identify the lamp as being an appliance lamp.~~, has a maximum wattage of 40 watts, and is sold at retail, including an oven lamp, refrigerator lamp, and vacuum cleaner lamp; and is designated and marketed for the intended application, with:

(1) the designation on the lamp packaging; and

(2) marketing materials that identify the lamp as being for appliance use.

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"Average rated life" means the length of time declared by the manufacturer at which 50 percent of any large number of units of a lamp reaches the end of their individual lives.

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"Colored fluorescent lamp" means a fluorescent lamp designated and marketed as a colored lamp, and with either of the following characteristics: a CRI less than 40, as determined according to the method given in CIE publication 13.3 1995, or ~~has~~ a lamp correlated color temperature less than 2,500K or greater than 6,600K.

"Colored incandescent lamp" means an incandescent lamp designated and marketed as a colored lamp that has:

(1) a CRI of less than 50, as determined according to the test method given in CIE publication 13.3-1995; or

(2) has a correlated color temperature less than 2,500K, or greater than 4,600K, where correlated color temperature is ~~defined as the absolute temperature of a blackbody whose chromaticity nearly resembles that of the light source. The designation shall be on the lamp packaging, and marketing materials shall identify the lamp as being a colored lamp~~ computed according to the Journal of Optical Society of America, Vol. 58, pages 1528-1595 (1986).

"Design voltage" with respect to an incandescent lamp means:

(1) the voltage marked as the intended operating voltage;

(2) the mid-point of the voltage range if the lamp is marked with a voltage range; or

(3) 120 V if the lamp is not marked with a voltage or voltage range.

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"Federally-regulated general service incandescent lamp" means a standard incandescent or halogen-type lamp that:

(1) is intended for general service applications;

(2) has a medium screw base

(3) has a lumen range of not less than 310 lumens and not more than 2,600 lumens; and

(4) is capable of being operated at a voltage range at least partially within 110 and 130 volts.

but does not include the following incandescent lamps:

(A) An appliance lamp.

(B) A black light lamp.

(C) A bug lamp.

(D) A colored lamp.

(E) An infrared lamp.

(F) A left-hand thread lamp.

(G) A marine lamp.

(H) A marine signal service lamp.

(I) A mine service lamp.

(J) A plant light lamp.

(K) A reflector lamp.

(L) A rough service lamp.

(M) A shatter-resistant lamp (including a shatter-proof lamp and a shatter protected lamp).

(N) A sign service lamp.

(O) A silver bowl lamp.

(P) A showcase lamp.

(Q) A 3-way incandescent lamp.

(R) A traffic signal lamp.

(S) A vibration service lamp.

(T) A G shape lamp (as defined in ANSI C78.20-2003 and C79.1-2002) with a diameter of five inches or more.
(U) A T shape lamp (as defined in ANSI C78.20-2003 and C79.1-2002) and that uses not more than 40 watts or has a length of more than 10 inches.
(V) A B, BA, CA, F, G16, G-25, G30, S, or M-14 lamp (as defined in ANSI C79.1-2002 and ANSI C78.20-2003) of 40 watts or less.

"Federally-regulated general service lamp" includes:
(1) general service incandescent lamps;
(2) compact fluorescent lamps;
(3) general service light-emitting diode (LED or OLED) lamps; and
(4) any other lamps that the Secretary determines are used to satisfy lighting applications traditionally served by general service incandescent lamps;
but does not include any:
(A) lighting application or bulb shape excluded from the definition of "federally regulated general service incandescent lamp;" or;
(B) general service fluorescent lamp or incandescent reflector lamp.

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"Initial performance values" means the photometric and electrical characteristics of the lamp at the end of 100 hours of operation.

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"Lamp Efficacy (LE)" means the measured lumen output of a lamp in lumens divided by the measured lamp electrical power in watts expressed in units of lumens per watt (LPW).

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"Lumen maintenance" means the luminous flux or lumen output at a given time in the life of the lamp and expressed as a percentage of the rated luminous flux or rated lumen output, respectively.

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"Medium base compact fluorescent lamp" means an integrally ballasted fluorescent lamp with a medium screw base, a rated input voltage range of 115 to 130 volts, and which is designed as a direct replacement for a general service incandescent lamp; however the term does not include:

(1) any lamp that is:
(A) specifically designed to be used for special purpose applications; and
(B) unlikely to be used in general purpose applications, such as the applications described in the definition of "Federally-regulated general service incandescent lamp" in this section; or

(2) any lamp not described in the definition of "Federally-regulated general service incandescent lamp" in this section that is excluded by the Secretary, by rule, because the lamp is:
(A) designed for special applications; and
(B) unlikely to be used in general purpose applications.

"Medium screw base" means an Edison screw base identified with the prefix E-26 in the *American National Standard for Electric Lamp Bases*, ANSI IEC C81.61-2003.

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"Organic light-emitting diode (OLED)" means a thin-film light-emitting device that typically consists of a series of organic layers between two electrical contacts (electrodes).

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"Rated luminous flux" or "rated lumen output" means the initial lumen rating (100 hour) declared by the manufacturer, which consists of the lumen rating of a lamp at the end of 100 hours of operation.

"Rated supply frequency" means the frequency marked on the lamp.

"Rated voltage" means the voltage marked on the lamp. With respect to incandescent lamps, rated voltage means:

(1) the design voltage if the design voltage is 115V, 130V, or between 115V and 130V;

(2) 115V if the design voltage is less than 115V and greater than or equal to 100V and the lamp can operate at 115V; and

(3) 130V if the design voltage is greater than 130V and less than or equal to 150V and the lamp can operate at 130V.

"Rated wattage" means ~~a lamp's~~ the wattage ~~value as stated by the manufacturer on the lamp, the lamp's packaging, or the lamp's marketing materials.~~ marked on the lamp. With respect to 4-foot medium bi-pin T8, T10, or T12 lamps, rated wattage means if the lamp is:

(1) listed in ANSI C78.1-1991, the nominal wattage of a lamp determined by the lamp designation in Annex A.2 of ANSI C78.1-1991; or

(2) a residential straight-shaped lamp, the wattage a lamp consumes when operated on a reference ballast for which the lamp is designed; or

(3) neither listed in ANSI C78.1-1991 nor a residential straight-shaped lamp, the wattage a lamp consumes when using reference ballast characteristics of 236 volts, 0.43 amps and 439 ohms for T10 or T12 lamps, or reference ballast characteristics of 300 volts, 0.265 amps, and 910 ohms for T8 lamps.

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"Residential straight-shaped lamp" means a low pressure mercury electric-discharge source in which a fluorescing coating transforms some of the ultraviolet energy generated by the mercury discharge into light, including a straight-shaped fluorescent lamp with medium bi-pin bases of nominal overall length of 48 inches and is either designed exclusively for residential applications; or designed primarily and marketed exclusively for residential applications.

(1) A lamp is designed exclusively for residential applications if it will not function for more than 100 hours with a commercial high-power-factor ballast.

(2) A lamp is designed primarily and marketed exclusively for residential applications if it:

(A) is permanently and clearly marked as being for residential use only;

(B) has a life of 6,000 hours or less when used with a commercial high-power-factor ballast;

(C) is not labeled or represented as a replacement for a fluorescent lamp that is a covered product; and

(D) is marketed and distributed in a manner designed to minimize use of the lamp with commercial high-power-factor ballasts.

(3) A manufacturer may market and distribute a lamp in a manner designed to minimize use of the lamp with commercial high-power factor ballasts by:

(A) packaging and labeling the lamp in a manner that clearly indicates the lamp is for residential use only and includes appropriate instructions concerning proper and improper use; if the lamp is included in a catalog or price list that also includes commercial/industrial lamps, listing the lamp in a separate residential section accompanied by notes about proper use on the same page; and providing as part of any express warranty accompanying the lamp that improper use voids such warranty; or

(B) using other comparably effective measures to minimize use with commercial high-power factor ballasts.

"Rough service lamp" means a lamp that

(1) has a minimum of 5 supports with filament configurations that are C-7A, C-11, C-17, and C-22 as listed in Figure 6-12 of the 9th edition of the IESNA Lighting handbook, or similar configurations where lead wires are not counted as supports; and

(2) is designated and marketed specifically for "'rough service'" applications~~.~~, with:

(A) ~~The~~the designation ~~shall~~ appearing on the lamp packaging~~,~~; and

(B) marketing materials ~~shall~~that identify the lamp as being for rough service.

”Self-ballasted compact fluorescent lamp” means a compact fluorescent lamp unit that incorporates, permanently enclosed, all elements that are necessary for the starting and stable operation of the lamp, and does not include any replaceable or interchangeable parts.

“Shatter-resistant lamp, shatter-proof lamp, or shatter-protected lamp” means a lamp ~~with an external coating on the bulb wall to resist breakage. The designation shall be on the lamp packaging, and marketing materials shall identify the lamp as being a shatter resistant lamp~~ that:

(1) has a coating or equivalent technology that is compliant with the NSF/ANSI 51 and is designed to contain the glass if the glass envelope of the lamp is broken; and

(2) is designated and marketed for the intended application, with:

(A) the designation on the lamp packaging; and

(B) marketing material that identify the lamp as being shatter-resistant, shatterproof, or shatter-protected.

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“Vibration service lamp” ~~or “Vibration resistant lamp”~~ means a lamp ~~with~~ that:

(1) has filament configurations ~~similar to but not limited to~~ that are C-5, C-7A, or C-9, as listed in Figure 6-12 of the 9th Edition of the IESNA Lighting Handbook or similar configurations;~~.~~

(2) has a maximum wattage of 60 watts;

(3) is sold at retail in packages of two lamps or less; and

(4) ~~The lamp~~ is designated and marketed specifically for vibration service or vibration-resistant applications~~.~~ with:

(A) ~~T~~the designation ~~shall be~~ appearing on the lamp packaging~~,~~; and

(B) marketing materials ~~shall~~ that identify the lamp as being vibration ~~resistant or vibration~~ service only.

”Voltage range” means a band of operating voltages as marked on an incandescent lamp, indicating that the lamp is designed to operate at any voltage within the band.

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(n) Luminaires.

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“Color Correlated Temperature (CCT)” means the color appearance, or actual color of the lamp in accordance with IESNA LM-16-1999.

"Compact Fluorescent Lamp" means a fluorescent lamp typically designed to replace general service incandescent lamps, but may include sizes that replace conventional linear fluorescent lamps in smaller luminaires, and are typically less than 24 inches in length. The definition for "fluorescent lamp" is in Section 1602(k) of this Article.

"Dedicated fluorescent lamp socket" means one of the ANSI designated type of fluorescent lamp sockets that will accept only a compact or linear fluorescent lamp, and used in luminaires where the ballast is permanently installed in the luminaire between the power cord and the lamp socket.

"Dedicated fluorescent lamp socket" does not include sockets where the ballast is located between the socket and the lamp, or where the ballast is integrated into the lamp.

"E12 screw-based socket" means an ANSI designation for a screw-base socket commonly referred to as a candelabra screw-base.

"E17 screw-based socket" means an ANSI designation for a screw-base socket commonly referred to as an intermediate screw-base.

"E26 screw-based socket" means an ANSI designation for a screw-base socket commonly referred to as a medium screw-base.

"GU-24" means the designation of a lamp holder and socket configuration, based on a coding system by the International Energy Consortium, where "G" indicates the broad type of two or more projecting contacts, such as pins or posts, "U" distinguishes between lamp and holder designs of similar type but that are not interchangeable due to electrical or mechanical requirements; and "24" indicates 24 millimeters center to center spacing of the electrical contact posts."

"GU-24 Adaptor" means a one-piece device, pig-tail, wiring harness, or other such socket/base attachment that connects to a GU-24 socket on one end and provides a different type of socket or connection on the other end; a GU-24 adaptor does not alter the voltage. A fluorescent ballast with a GU-24 base is not a GU-24 adaptor.

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"High Frequency Electronic Ballast" means a fluorescent lamp ballast as defined in Section 1602(j), and having an output frequency of no less than 20kHz.

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"LED Light Engine with Integral Heat Sink" (also known as an LED Light Source System) means a subsystem of an LED Luminaire that includes one or more LED components, including an LED driver (Power Source), electrical and mechanical interfaces, and an integral heat sink to provide thermal dissipation. An LED Source

System may be designed to accept additional components that provide aesthetic, optical, and environmental control (other than thermal dissipation).

"LED Luminaire" means a complete LED lighting unit consisting of a light source and driver together with parts to distribute light, to position and protect the light source, and to connect the light source to the electrical power.

"Luminaire Efficacy" for LEDs means the luminous efficacy of the LED luminaire, or of the LED light engine with integral heat sink, when tested in accordance with IESNA LM-79-08.

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"Portable Floor Luminaires" means portable luminaires designed to be located on the floor and not located on a table, desk, or other structure above the floor; and which are a minimum of 48 inches tall.

"Portable Luminaires" means luminaires with a flexible cord and an attachment plug for connection to a nominal 120-volt, 15- or 20-ampere branch circuit, allowing the user to relocate the luminaire without any rewiring; that are typically controlled with a switch located on the luminaire itself or on the power cord, and, that are intended for use in accordance with the National Electrical Code, ANSI/NFPA 70-2002. Portable luminaires do not include direct plug-in nightlights, sun and heat lamps, aquarium lamps, medical and dental lights, portable electric hand lamps, signs and commercial advertising displays, photographic lamps, germicidal lamps, or portable luminaires for marine use or for use in hazardous locations as defined in the National Electrical Code, ANSI/NFPA 70. Portable luminaires do not include Christmas tree and decorative lighting outfits, or electric candles and candelabras without lamp shades, which are covered by the Standard for Christmas Tree and Decorative Outfits, UL 588.

"Portable Table Luminaires" means portable luminaires designed to be located on a table, desk, or other structure above the floor, regardless of the height of the luminaire.

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"System Input Power Rating" means the operating input wattage of the rated lamp/ballast combination published in manufacturer's catalogs based on independent testing lab reports as specified by "Standards for Luminaire" UL 1598.

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The following standards are incorporated by reference in Section 1602.

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ILLUMINATING ENGINGEERING SOCIETY OF NORTH AMERICA (IESNA)

IESNA LM-16~~-1993~~1999	IES Practical Guide to Colorimetry of Light Sources
IESNA LM-79-08	Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

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INTERNATIONAL COMMISSION ON ILLUMINATION (CIE)

CIE Publication 13.3 1995	Method of Measuring and Specifying Colour Rendering Properties of Light Sources
Copies available from:	International Commission on Illumination CIE Central Bureau Kegelgasse 27 A-1030 Vienna AUSTRIA Phone: +43 1 714 31 87 0 FAX: +43 1 714 31 87 18 e-mail: ciecb@cie.co.at

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OPTICAL SOCIETY OF AMERICA (OSA)

Journal of Optical Society of America, Volume 58 (1986)

Copies available from:	Optical Society of America 2010 Massachusetts Ave., N.W. Washington, D.C. 20036-1012 USA www.osa.org Phone: 202.223.8130 FAX: 202.223.1096

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UNDERWRITERS LABS (UL)

UL 588	Standard for Seasonal and Holiday Decorative Products
UL 1598	Standards for Luminaires
Copies available from:	Underwriters Laboratories, Inc. 333 Pfingsten Road Northbrook, IL 60062-2096 www.ul.com Phone: (847) 272-8800 FAX: (847) 272-8129

NOTE: Authority cited: Sections 25213, 25218(e), 25402(a)-(c), and 25960, Public Resources Code.
Reference: Sections 25216.5(d), 25402(a)-(c), and 25960, Public Resources Code

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Section 1604. Test Method for Specific Appliances

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(k) Lamps.

(1) The test method for federally-regulated general service fluorescent lamps~~, state regulated general service incandescent lamps, state-regulated incandescent reflector lamps,~~ and federally-regulated incandescent reflector lamps is 10 CFR Section 430.23(r) (Appendix R to Subpart B of Part 430) (~~2005~~2008).

(2) The test method for state-regulated general service incandescent lamps and state regulated incandescent reflector lamps is 10 CFR Section 430.23(r) (Appendix R to Subpart B of Part 430) (2008).

(3) The test method for medium base compact fluorescent lamps is 10 CFR Section 430.23(v) (Appendix W to Subpart B of Part 430) (2008).

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NOTE: Authority cited: Sections 25213, 25218(e), 25402(a)-(c), and 25960, Public Resources Code.

Reference: Sections 25216.5(d), 25402(a)-(c), and 25960, Public Resources Code.

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Section 1605.3. State Standards for Non-Federally-Regulated Appliances.

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(k) Lamps

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(4) Standards for State-Regulated General Service Incandescent Lamps. State-regulated general service incandescent lamps manufactured on or after the effective dates shown in Tables K-9 and K-10 shall meet the standards shown in Tables K-9 and K-10.

Table K-9: Standards for State-regulated General Service Incandescent Lamps - Tier I

Rated Lumens Range	***Maximum rated Wattage***	***Minimum Rated Life Time***	***Proposed California Effective Date***
1490-2600 Lumens	72 watts	1,000 Hours	Jan, 1, 2011
1050-1489Lumens	53 watts	1,000 Hours	Jan 1, 2012
750-1049 Lumens	43 watts	1,000 Hours	Jan 1, 2013
310-749 Lumens	29 watts	1,000 Hours	Jan 1, 2013

Table K-10: Standards for State-regulated General Service Lamps -Tier II

Lumens Range	***Maximum Lamp Efficacy***	***Minimum Rated Life Time***	***Proposed California Effective Date***
All	45 lumens per watt	1,000 Hours	Jan, 1, 2018

(5) GU-24 Base Lamps.

GU-24 base lamps shall not be incandescent lamps.

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(n) Luminaires.

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(4) Portable Luminaires.

(A) Portable luminaires manufactured on or after January 1, 2010 shall meet one or more of the following requirements:

1. Be equipped with a dedicated fluorescent lamp socket connected to a high frequency electronic ballast contained within the portable luminaire with minimum system efficacy requirements shown in Table N-3;

Table N-3

Minimum System Efficiency Requirements for Pin-Based Fluorescent Lamps for Portable Luminaires

System Input Power Rating	***Minimum System Efficacy***
≤ 5 watts	30 lumens per watt
> 5 watts to ≤ 15 watts	40 lumens per watt
> 15 watts to ≤ 40 watts	50 lumens per watt
> 40 watts	60 lumens per watt

2. Be equipped with a GU-24 line-voltage socket and not rated for use with incandescent lamps;

3. Be a light emitting diode (LED) luminaire, or a portable luminaire with an LED light engine with integral heat sink, that complies with the minimum requirements shown in Table N-4;

Table N-4

Minimum Requirements for Portable LED Luminaires, and Portable Luminaires with LED Light Engines with Integral Heat Sink

Criteria	***Requirement***
Minimum Light Output	200 lumens (initial).
Testing Requirements	Input wattage, luminous flux, and system efficacy shall be tested in accordance with California Joint Appendix JA8 – 2008, "Testing of Light Emitting Diode Light Sources," or in accordance with IES LM-79-08, "Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products."
Minimum Luminaire Efficacy	If testing an LED luminaire 29 lumens/W
Minimum Light Engine Efficacy	If testing an LED light engine with integral heat sink 40 lumens/W
Allowable Color Correlated Temperature (CCT)	2700 K through 5000 K
Minimum Color Rendering Index (CRI)	75
Power Factor	Residential ≥ 0.70
Electromagnetic and Radio Frequency Interference	• Power supplies designated by the manufacturer for residential applications must meet FCC requirements for consumer use (FCC 47 CFR Part 15/18 Consumer Emission Limits). • Power supplies designated by the manufacturer for commercial applications must meet FCC requirements for non-consumer use (FCC 47 CFR Part 15/18 Non- consumer Emission Limits).
Noise	Power supply shall have a Class A sound rating.
Transient Protection	Power supply shall comply with IEEE C.62.41-1991, Class A operation. The line transient shall consist of seven strikes of a 100 kHz ring wave, 2.5 kV level, for both common mode and differential mode.

4. If equipped with an E12, E17, or E26 screw-based socket, the luminaire shall be prepackaged and sold together with one screw-based compact fluorescent lamp, or with one screw-based LED lamp for each screw-based socket on the portable luminaire. The compact fluorescent or LED lamps which are prepackaged with the portable luminaire shall be fully compatible with the luminaire controls, including

portable luminaires having a dimmer control shall be prepackaged with dimmable compact fluorescent or LED lamps, and portable luminaires having 3-way controls shall be prepackaged with 3-way compact fluorescent or LED lamps. The compact fluorescent lamps required to be package with the luminaires shall meet the minimum energy efficiency levels established for 2008 by Energy Star for compact fluorescent lamps. The LED lamps required to be packaged with the luminaire shall comply with the minimum requirements shown in Table N-4;

EXCEPTIONS to Section 1605.3(n)(4). The following portable luminaires are not required to be prepackaged and sold together with compact fluorescent or LED lamps:

EXCEPTION 1 to Section 1605.3(n)(4). Portable Wall Mount Adjustable Luminaires that meet all of the following requirements: Designed only to be mounted on a wall, having no base which will allow the luminaire to stand on a horizontal surface, having an articulated arm, having a maximum overall length of 24 inches in any direction, fitted only with a single E-12, E-17 or E-26 lamp socket per luminaire, and controlled with an integral dimmer. Luminaires manufactured on or before December 31, 2011 shall have a maximum relamping rated wattage of 57 watts, and luminaires manufactured on or after January 1, 2012 shall have a maximum relamping rated wattage of 43 watts, as listed on a permanent pre-printed factory-installed label in accordance with Underwriters Laboratories (UL) 153.

EXCEPTION 2 to Section 1605.3(n)(4). Art Work Luminaires that meet all of the following requirements: Designed only to be mounted directly to art work only for the purpose of illuminating that art work, fitted only with E-12 screw-base line-voltage sockets, having no more than three sockets per luminaire, and controlled with an integral high/low switch. Luminaires with a single socket shall have a maximum relamping rated wattage of 25 watts, and luminaires with two or three sockets shall have a maximum relamping rated wattage of 15 watts per socket, as listed on a permanent pre-printed factory-installed label in accordance with Underwriters Laboratories (UL) 153.

5. If equipped with single-ended, non-screw based halogen lamp sockets (line or low voltage), must include a dimmer control or high low control and be rated for a maximum of 100W.

(B) Portable luminaires that have internal power supplies shall have zero standby power when the luminaire is turned off.

(C) Beginning January 1, 2013, portable luminaire manufacturers selling products in California shall submit to the Energy Commission annual unit sales of portable non-screw based halogen luminaires sold in California, by major product class. Data for each calendar year shall be submitted no later than May 1 of the following year.

(5) GU-24 luminaires, sockets, and adaptors.

(A) Permanently installed and portable luminaires with GU-24 sockets manufactured on or after January 1, 2010 shall not be rated for use with incandescent lamps of any type, including line voltage or low voltage.

(B) GU-24 adaptors manufactured on or after January 1, 2010 shall not adapt a GU-24 socket to any other line voltage socket.

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The following standards are incorporated by reference in Section 1605.3.

CALIFORNIA ENERGY COMMISSION TEST METHODS

California Joint Appendix JA8 – 2008 Testing of Light Emitting Diode Light Sources

Copies available from: California Energy Commission
Energy Hotline
1516 Ninth Street, MS-25
Sacramento, California 95814
Phone: (916) 654-5106
FAX: (916) 654-4304

FEDERAL REQUIREMENTS

Energy Star Program Requirements for CFLs

Copies available from: US EPA
Climate Protection Partnership
ENERGY STAR Programs Hotline & Distribution (MS-6202J)
1200 Pennsylvania Ave NW
Washington, DC 20460
www.energystar.gov

47 CFR Part 15/18 Federal Communications Commission: Non-consumer Emission Limits

Copies available from: Superintendent of Documents

U.S. Government Printing Office
Washington, DC 20402
www.access.gpo.gov/nara/cfr

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C.62.41-1991	Recommended Practices on Surge Voltages in Low-voltage AC Power Circuits

Copies available from:	Institute of Electrical and Electronics Engineers Publications Office 10662 Los Vaqueros Circle PO Box 3014 Los Alamitos, CA 90720-1264 www.ieee.org Phone: (714) 821-8380 Fax: (714) 821-4010

ILLUMINATING ENGINGEERING SOCIETY OF NORTH AMERICA (IESNA)

IESNA LM-79-08	Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Copies available from:	Illuminating Engineering Society of North America 120 Wall Street, 17th Floor New York, NY 10005-4001 www.iesna.org Phone: (212) 248-5000 FAX: (212) 248-5017/18

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UNDERWRITERS LABORATORIES, INC. (UL)

UL 153	Portable Luminaires

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NOTE: Authority cited: Sections 25213, 25218(e), 25402(a)-(c), and 25960, Public Resources Code.

Reference: Sections 25216.5(d), 25402(a)-(c), and 25960, Public Resources Code

Section 1606. Filing by Manufacturers; Listing of Appliances in Database.

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Table V
Data Submittal Requirements

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	Appliance	***Required Information***	***Permissible Answers***
K	State-regulated <u>medium screw base</u> general service Incandescent lamps	Rated lumens	
		Rated lamp wattage	
		Bulb finish	Clear, frost, soft white
		Average lamp efficacy	
		ANSI-designated bulb shape	A-15, A-19, A-21, A-23, A-25, PS-25, PS-30, BT-14, BT-15, CP-19, TB-19, CA-22
	<u>State-regulated medium screw base general service Compact Fluorescent lamps</u>	<u>Rated lumens</u>	
		<u>Rated lamp wattage</u>	
		<u>Average lamp efficacy</u>	
	<u>State-regulated medium screw base general service Light Emitting Diode (LED) lamps, and Organic LED (OLED) lamps</u>	<u>Rated lumens</u>	
		<u>Rated lamp wattage</u>	
		<u>Average lamp efficacy</u>	

. . .

Table V
Data Submittal Requirements

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	Appliance	*Required Information*	*Permissible Answers*
N	Portable Luminaires	Compliance method used	List all that apply: Dedicated fluorescent lamp socket complying with 1605.3 (n)4A GU-24 line-voltage socket complying with 1605.3 (n)4B LED luminaire complying with 1605.3 (n)4C Equipped with E12, E17, or E26 screw-based socket complying with 1605.3 (n)(4)
		Type of Portable Luminaire	Floor, table, other (specify)
		Total Number of lamp sockets	
		Base type	Candelabra base, intermediate base, medium screw-base, pin-base; other (specify)
		Do portable luminaires that have internal power supplies have zero standby power when the luminaire is turned off?	Yes, No, Not applicable
		Are portable luminaires with GU-24 sockets rated for use with incandescent lamps of any type, including line voltage or low voltage?	Yes, No, Not applicable
	GU-24 Luminaires, Sockets and Adaptors	GU-24 adaptors do not adapt a GU-24 socket to any other line voltage socket.	Yes, no
		Are luminaires with GU-24 sockets rated for use with incandescent lamps of any type, including line voltage or low voltage?	Yes, no

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Section 1606 (j) Portable Luminaire Sales Data

Beginning January 1, 2013, portable luminaire manufacturers selling products in California shall submit to the Energy Commission annual unit sales of portable non-screw based halogen luminaires sold in California, by major product class. Data for each calendar year shall be submitted no later than May 1 of the following year.

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NOTE: Authority cited: Sections 25213, 25218(e), 25402(a)-(c), and 25960, Public Resources Code.

Reference: Sections 25216.5(d), 25402(a)-(c), and 25960, Public Resources Code.

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